

Patent Application of

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for

MAINTAINING MINIMUM ELECTRICAL SERVICE WHILE PREVENTING A BLACKOUT

CROSS REFERENCE TO RELATED APPLICATIONS.

Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
DEVELOPMENT.

Not applicable

Reference to a "microfiche appendix".

Not applicable.

BACKGROUND OF THE INVENTION.

1. Field of invention.

This invention relates to the automatic disconnecting of electrical load from an overloaded power system, while at the same time maintaining approximately $\frac{1}{2}$ of normal electrical service to every customer.

2. Description of related art.

The practice of disconnecting electrical load, today, during a power system overload emergency, is to completely disconnect customers. This sometimes results in a widespread blackout.

BRIEF SUMMARY OF THE INVENTION.

During a power system overload emergency this invention will avoid a blackout by providing service to approximately $\frac{1}{2}$ of customers electrical circuits. At the same time blocks of electrical load will be disconnected to prevent the overloaded power system from becoming unstable.

BRIEF DESCRIPTION OF THE DRAWINGS.

Drawings may not be necessary.

DETAILED DESCRIPTION OF THE INVENTION.

The disconnecting of electrical load from an overloaded power system and at the same time maintaining approximately $\frac{1}{2}$ of the normal power service to customers is accomplished as follows:

A Frequency sensitive on / off switch is placed in either leg of the 240 volt circuit contained in the three wire, center tapped, grounded cable serving the customer.

The frequency sensitive switch will be set to open whenever the overloaded power system frequency falls below the point of which the power system may become unstable. A power system at 58 cycles is in jeopardy.

When the switches open on low power system frequency this indicates that the customers have been disconnected from the 240 volt circuit and one of the 120 volt grounded circuits.

This leaves the customers with one 120 volt grounded circuit remaining energized.

The opening of these switches will also disconnect a large block of electrical load from the overloaded power system.

The instantaneous opening of these switches on low system frequency will prevent the generators from further reducing their speed and will allow them to return to their normal 60 cycle operation.

The electrical load disconnected during the overload emergency will, in time, be picked up as more generation becomes available.

Optional means for picking up this jettisoned electrical lead are as follows:

1. Automatic reclosing of the switches as the system frequency returns to the normal 60 cycles.
2. A reset button provided for use by the customer to close the switches and restore full electrical service.
3. The transmission of electromagnetic frequencies from the power system control room to the switches on customers premises.